IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Richard M. Schwartz et al.

Confirmation No.: 9095

Application No.: 09/656,264

Art Unit: 2626

Filed: September 6, 2000

Examiner: M. N. Opsasnick

For: SYSTEMS AND METHODS FOR PROVIDING
     AUTOMATED DIRECTORY ASSISTANCE

APPEAL BRIEF

MS APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is filed pursuant to 37 C.F.R. § 41.37 in furtherance of the Notice of Appeal filed in the above-identified application on November 16, 2007, and appeals the decision of the primary Examiner in the Office Action dated August 17, 2007 ("Final Office Action"). This application was filed September 6, 2000.

The fees required under § 41.20(b)(2) are addressed in the accompanying TRANSMITTAL OF APPEAL BRIEF.

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I. **REAL PARTY IN INTEREST**

The real party in interest of the present application, solely for purposes of identifying and avoiding potential conflicts of interest by board members due to working in matters in which the member has a financial interest, is Verizon Communications Inc. and its subsidiary companies, which currently include Verizon Business Global, LLC (formerly MCI, LLC) and Cellco Partnership (doing business as Verizon Wireless, and which includes as a minority partner affiliates of Vodafone Group Plc). Verizon Communications Inc. or one of its subsidiary companies is an assignee of record of the present application.

II. RELATED APPEALS AND INTERFERENCES

On December 7, 2007, an Appeal Brief was filed in serial no. 11/129,270, filed May 12, 2005, and entitled SYSTEMS AND METHODS FOR USING TRANSCRIPTS TO TRAIN AN AUTOMATED DIRECTORY ASSISTANCE SERVICE." The afore-mentioned application having serial no. 11/129,270 is a divisional application of the present application.

Applicants (hereinafter "Appellants") are not aware of any other related appeals or interferences that would affect the Board's decision on the current appeal.

III. <u>STATUS OF CLAIMS</u>

Claims 1-4, 6-30, and 53-55 are pending, and are the subject of this appeal. Claims 5 and 31-52 were canceled. The pending claims are reproduced in an Appendix to this Appeal Brief.

IV. <u>STATUS OF AMENDMENTS</u>

Despite the Examiner's statement in the Advisory Action dated November 5, 2007 that proposed amendments will be entered, Applicants did not make any amendments to the claims following the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The presently claimed invention includes various methods, systems, and computer programs. The following is a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, as required by 37 C.F.R. § 41.37(c)(1)(v). The following explanation is not intended to be used to construe the claims, which are believed to speak for themselves, nor do Appellants intend the following explanation to modify or add any claim elements, or to constitute a disclaimer of any equivalents to which the claims would otherwise be entitled, nor is any reference to certain preferred embodiments herein intended to disclaim other possible embodiments.

The following summary indicates certain portions of the specification (including the drawings) that provide examples of embodiments of elements of the claimed subject matter. It is to be understood that other portions of the specification not cited herein may also provide examples of embodiments of elements of the claimed subject matter. It is also to be understood that the indicated examples are merely examples, and the scope of the claimed subject matter includes alternative embodiments and equivalents thereof. References herein to the specification are thus intended to be exemplary and not limiting.

A.   Claim 1

Independent claim 1 recites an automated directory assistance system, comprising a speech recognition module configured to receive an audible request for a telephone number from a caller and generate a transcript from the audible request. (E.g., Specification, page 15, line 17 – page 16, line 4; Figure 5, element 510.)

The system of claim 1 further comprises a listing retrieval module configured to retrieve a listing corresponding to the audible request from a database, the listing retrieval module being configured to use the transcript as a query, the database storing words previously included in requests for telephone numbers. (E.g., Specification, page 16, lines 11-16; Figure 5, element 520.)

The system of claim 1 further comprises an accept/reject module configured to determine whether to accept the listing retrieved by the listing retrieval module and present a telephone number corresponding to the accepted listing to the caller, the listing being rejected

unless the transcript contains at least one of the stored words. (E.g., Specification, page 17, lines 3-15; Figure 5, element 530.)

B.   Claim 7

Claim 7 depends from claim 1 and further recites that the accept/reject module is configured to identify at least one word that is required for the listing, determine whether the transcript contains the identified at least one required word, and accept the listing when the transcript contains the identified at least one required word. (E.g., Specification, page 21, lines 8-11.)

C.   Claim 9

Claim 9 depends from claim 1 and further recites "a training system configured to automatically configure the speech recognition module, the listing retrieval module, and accept/reject mode. (E.g., Specification, page 9, line 9 – page 10, line 2; Figure 3.)

D.   Claim 12

Claim 12 depends from claim 9 and further recites a required words determination module configured to identify at least one word that is required to request the telephone number, the accept/reject module using the identified at least one required word to determine whether the listing is acceptable. (E.g., Specification, page 14, line 16 – page 15, line 2; Figure 3, element 350.)

E.   Claim 13

Claim 13 depends from claim 9 and further recites a transcription module configured to automatically generate training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number. (E.g., Specification, page 9, line 16 – page 10, line 2; Figure 3, element 310.)

F.   Claim 17

Independent claim 17 recites a method for providing directory assistance comprising receiving an audible request for a telephone number from a caller. (E.g., Specification, page 23, line 16 – page 24, line 2; Figure 8, element 810.)

Independent claim 17 further recites generating a transcript from the audible request. (E.g., Specification, page 24, lines 7-9; Figure 8, element 820.)

Independent claim 17 further recites retrieving a listing corresponding to the audible request from a database using the transcript as a query into the database, the database storing words previously included in requests for telephone numbers. (E.g., Specification, page 24, lines 9-14; page 16, lines 14-18; Figure 8, element 830.)

Independent claim 17 further recites determining whether to accept the retrieved listing, the listing being rejected unless the transcript contains at least one of the stored words. (E.g., Specification, page 24, line 15 – page 25, line 3; page 17, lines 3-15; Figure 5, element 840.)

Independent claim 17 further recites presenting a telephone number corresponding to the accepted listing to the caller. (E.g., Specification, page 25, lines 11-13; Figure 5, element 850.)

G.   Claim 23

Claim 23 depends from claim 17 and further recites identifying at least one word that is required for the listing. (E.g., Specification, page 24, lines 18-19.)

Claim 23 further recites determining whether the transcript contains the identified at least one required word. (E.g., Specification, page 24, line 19 – page 25, line 1.)

Claim 23 further recites accepting the retrieved listing when the transcript contains the identified at least one required word. (E.g., Specification, page 25, lines 1-3.)

H.   Claim 25

Claim 25 further recites automatically generating training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number. (E.g., Specification, page 18, lines 4-9.)

I.   Claim 27

Claim 27 depends from claim 26, which in turn depends from claim 25, which in turn depends from claim 17.

Claim 26 further recites that the automatically generating includes creating a loose grammar corresponding to each of the telephone numbers, and generating a training transcript for one of the previous requests for one of the telephone numbers using the loose grammar. (E.g., Specification, page 19, lines 2-6, 11-16.)

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Claim 27 then recites that the automatically generating includes determining whether the generated transcript is acceptable. (E.g., Specification, page 19, line 2 – page 20, line 4.)

J.   Claim 29

Independent claim 29 recites a system for providing automated directory assistance, comprising means for receiving a request for a telephone number from a caller. (E.g., Specification, page 15, line 17 – page 16, line 2; Figure 5, element 510.)

The system of claim 29 further comprises means for generating a transcript from the request. (E.g., Specification, page 16, lines 2-4; Figure 5, element 510.)

The system of claim 29 further comprises means for retrieving a listing corresponding to the request from a database using the transcript as a query, the database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words. (E.g., Specification, page 16, lines 11-16; Figure 5, element 520.)

The system of claim 29 further comprises means for determining whether to accept the retrieved listing. (E.g., Specification, page 17, lines 3-8; Figure 5, element 530.)

The system of claim 29 further comprises means for presenting a telephone number corresponding to the accepted listing to the caller. (E.g., Specification, page 25, lines 5-7; Figure 5, element 530.)

K.   Claim 30

Independent claim 30 recites a computer-readable medium that stores instructions executable by at least one processor to perform a method for providing directory assistance, comprising recognizing at least one word in an audible request for a telephone number received from a caller. (E.g., Specification, page 23, line 16 – page 24, line 2; Figure 8, element 810.)

The medium of claim 30 further comprises instructions for generating a transcript from the audible request. (E.g., Specification, page 24, lines 7-9; Figure 8, element 820.)

The medium of claim 30 further comprises instructions for retrieving at least one listing corresponding to the audible request from a database using the transcript as a query, the database storing words previously included in requests for telephone numbers, the query

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including matching the transcript to the stored words. (E.g., Specification, page 24, lines 9-14; page 16, lines 14-18; Figure 8, element 830.)

The medium of claim 30 further comprises instructions for determining whether to accept one or more of the retrieved listings. (E.g., Specification, page 24, line 15 – page 25, line 3; Figure 5, element 840.)

The medium of claim 30 further comprises instructions for presenting a telephone number corresponding to the accepted one or more listings to the caller. (E.g., Specification, page 25, lines 11-13; Figure 5, element 850.)

L.   Claim 53

Independent claim 53 recites a method for providing a directory assistance service, comprising receiving a request for a telephone number from a caller, the request being spoken by the caller and including a location and listing corresponding to the telephone number. (E.g., Specification, page 23, line 16 – page 24, line 2; Figure 8, element 810.)

The method of claim 53 further comprises using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request. (E.g., Specification, page 24, lines 5-7; page 26, lines 2-4; Figure 8, element 820.)

The method of claim 53 further comprises generating a transcript from the at least one word. (E.g., Specification, page 24, lines 7-9, Figure 8, element 820.)

The method of claim 53 further comprises using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, including using the transcript as a query, the listings database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words. (E.g., Specification, page 24, lines 9-14; page 16, lines 14-18; Figure 8, element 830.)

The method of claim 53 further comprises determining whether the listing is likely to be correct. (E.g., Specification, page 24, line 15 – page 25, line 3; Figure 5, element 840.)

The method of claim 53 further comprises providing a telephone number corresponding to the listing to the caller. (E.g., Specification, page 25, lines 11-13; Figure 5, element 850.)

M.   Claim 54

Independent claim 54 recites a method comprising receiving a request for a telephone number from a caller, the request being spoken by the caller and including a location and listing corresponding to the telephone number. (E.g., Specification, page 23, line 16 – page 24, line 2; Figure 8, element 810.)

The method of claim 54 further comprises using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request. (E.g., Specification, page 24, lines 5-7; page 26, lines 2-4; Figure 8, element 820.)

The method of claim 54 further comprises generating a transcript from at least one word. (E.g., Specification, page 24, lines 7-9, Figure 8, element 820.)

The method of claim 54 further comprises using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, the statistical information retrieval matching the transcript to words previously included in requests for telephone numbers. (E.g., Specification, page 24, lines 9-14; page 16, lines 14-18; Figure 8, element 830.)

The method of claim 54 further comprises connecting the caller to a called party corresponding to the listing. (E.g., Specification, page 25, lines 11-13; Figure 8, element 870.)

N.   Claim 55

Independent claim 55 recites a method of providing directory assistance, comprising defining a set of words or phrases associated with a listing. (E.g., Specification, page 14, lines 1-8.)

The method of claim 55 further comprises defining at least one required word associated with the listing. (E.g., Specification, page 14, lines 9-15.)

The method of claim 55 further comprises receiving a request for a telephone number from a caller. (E.g., Specification, page 14, lines 16-18; page 23, lines 16-17; Figure 8, element 810.)

The method of claim 55 further comprises using speech recognition to generate a transcript from the audible request. (E.g., Specification, page 24, lines 7-9; Figure 8, element 820.)

The method of claim 55 further comprises using the transcript to identify the listing as a potential match to the request, the listing being identified by using the transcript as a query into a database containing the set of words or phrases associated with the listing, the set of words or phrases associated with the listing being previously included in requests for telephone numbers. (E.g., Specification, page 24, lines 9-14; page 16, lines 14-18; Figure 8, element 830.)

The method of claim 55 further comprises determining whether the transcript includes the at least one required word associated with the listing. (E.g., Specification, page 24, line 15 – page 25, line 4; Figure 8, element 850.)

The method of claim 55 further comprises accepting the listing when it is [determined] that the transcript includes a match for at least one of the at least one required word. (E.g., Specification, page 25, lines 1-3.)

The method of claim 55 further comprises rejecting the listing when it is determined that the transcript does not include a match for at one of the at least one required word. (E.g., Specification, page 25, lines 8-9.)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1.   That claims 1, 2, 4, 6-9, 11-17, 20-25, and 27-30 are unpatentable under 35 USC § 103(a) over United States Patent No. 6,122,361 ("Gupta") in view of United States Patent No. 6,122,614 ("Kahn") and further in view of United States Patent No. 6,754,326 ("Cox").

2.   That claims 53 and 55 are unpatentable under Section 103 over United States Patent No. 5,987,414 ("Sabourin") in view of Cox.

3.   That claim 54 is unpatentable under Section 103 over Sabourin in view of Cox and further in view of United States Patent No. 4,959,855 ("Daudelin").

VII. ARGUMENT

A. The Law With Respect to All Grounds of Rejection (Claims 1-4, 6-30, and 53-55)

With respect to Section 103 rejections, the Examiner has a burden of stating a prima facie case of obviousness. A prima facie case of obviousness has historically required that:

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

MPEP, § 2143 (citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Moreover, according to MPEP 706.02(j):

> After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:
>
> (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
>
> (B) the difference or differences in the claim over the applied reference(s),
>
> (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
>
> (D) an explanation as to why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made.

As explained below, in several instances the Examiner failed to properly state a prima facie case of obviousness, and the Examiner's rejections must be reversed for at least this reason.

So long as the first requirement for a prima facie case of obviousness is not rigidly applied, requiring the Examiner to show some reason for combining prior art references is consistent with the United States Supreme Court's recent decision in KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727, 82 USPQ2d 1385 (2007). In KSR, the Supreme Court stated that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." (Id. at 1739, 82 USPQ2d at 1395.) Additionally the Court stated that

> It can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

(Id. at 1741, 82 USPQ2d at 1396.) The Court further explained that

> What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under §103. One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims.

(Id. at 1742, 82 USPQ2d at 1397.) Accordingly, the Court made clear that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." (Id. at 1731, 82 USPQ2d at 1389.) In summary, KSR plainly does not disturb the well-settled proposition that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984); M.P.E.P § 2141.02.

B.   Ground of Rejection No. 1 (Claims 1, 2, 4, 6-9, 11-17, 20-25, and 27-30)

A ground of rejection set forth in the Final Office Action was that claims 1, 2, 4, 6-9, 11-17, 20-25, and 27-30 were allegedly unpatentable under Section 103 over Gupta in view of Kahn and further in view of Cox. Various claims are argued together herein without conceding that the claims are of identical scope. As set forth below, multiple independent reasons mandate that this Board reverse these claim rejections.

1.   Independent Claims 1, 17, 29, and 30

The Examiner rejected independent claims 1, 17, 29, and 30 together in the Final Office Action (page 2). Therefore, without conceding that these claims are of identical scope, Appellants address these claims together in this Appeal Brief.

a.   **"receive an audible request for a telephone number from a caller" and "generate a transcript from the audible request"**

i.   Failure to State a <u>Prima Facie</u> Rejection

Independent claim 1 recites in part:

> a speech recognition module configured to receive an audible request
> for a telephone number from a caller and generate a transcript from
> the audible request.

Independent claim 17 recites "receiving an audible request for a telephone number from a caller" and "generating a transcript from the audible request." Independent claim 29 recites "means for receiving a request for a telephone number from a caller" and "means for generating a transcript from the request." Independent claim 30 recites in part "recognizing at least one word in an audible request for a telephone number received from a caller" and "generating a transcript from the audible request."

Regarding the foregoing claim recitations, the Examiner contended that Gupta teaches "'a speech recognition module . . . audible request' as generating scripts from input speech." (Final Office Action, page 2.) As a threshold matter, the Examiner has not met the burden of stating a <u>prima facie</u> rejection because Appellants cannot tell from this statement exactly what Gupta is contended to teach, nor can applicants discern how Gupta is alleged to read on the foregoing claim recitations. <u>See</u> MPEP 706.02(j) (quoted above). Particularly inasmuch as the Examiner acknowledged that Gupta "does not explicitly teach generating a transcript" (Final Office Action, page 3), Appellants are unable to discern the meaning of the allegation that Gupta teaches "generating scripts from input speech," or how such teaching would apply to the foregoing claim recitations. Therefore, the present rejection of claims 1, 17, 29, and 30, and all claims depending therefrom, should be reversed at least because the Examiner has not met his burden. Further, the rejections of claims 1, 17, 29, and 30 should be reversed because Gupta, Kahn, and Cox, either alone or in combination, fail to teach or suggest the recitations of the claims.

ii.   **"an audible request for a telephone number"**

Gupta discloses a directory assistance system that matches a spoken request for a locality with a locality that the speaker is most likely requesting. (Gupta, Abstract.) However, a request for a locality is not a request for a telephone number. Therefore, the

rejection of claims 1, 17, 29, and 30 should be reversed at least because Gupta does not teach or suggest "an audible request for a telephone number."

iii.   "a transcript from the audible request"

The Examiner acknowledged that Gupta "does not explicitly teach generating a transcript," but contended that Kahn "teaches the operator generating transcripts of the user input." (Final Office Action, page 2.) Again, the Examiner has failed to meet the burden of stating a prima facie rejection because the Examiner has failed to address the recitation of Appellants' claim. That is, claims 1, 17, 29, and 30 do not recite "the operator generating transcripts of the user input." Instead, claim 1, quoted as representative, clearly recites "a speech recognition module configured to . . . generate a transcript from the audible request." Accordingly, the rejection of claims 1, 17, 29, and 30 should be reversed for the further independent reason that the Examiner has plainly failed to address each and every element of the claims, including recitations related to generating a transcript.

Kahn does disclose use of pre-existing "speech recognition software" products, although Kahn does not appear to teach or suggest using such products to generate transcripts. (E.g., Kahn, column 8: 15-18.) However, Kahn is directed to "[a] system for substantially automating transcription services for multiple voice users" (Kahn, Abstract), and does not in any way teach or suggest "a speech recognition module configured to receive an audible request for a telephone number from a caller," much less "a speech recognition module configured to . . . generate a transcript from the audible request," as recited in claim 1. Similarly, Kahn does not teach or suggest "generating a transcript from the audible request," as recited in claims 17, 29, and 30. Thus, the rejection of claims 1, 17, 29, and 30 should be reversed for at least this further independent reason.

Moreover, it would not have been possible, much less likely, that one of ordinary skill in the art would have combined the directory assistance system of Gupta with the transcription services of Kahn. In addition to providing transcripts from human operators (Kahn, column 8: 19-22), Kahn provides a written file as output from speech recognition software, but such output is based on a "digital audio file recorded by the current user" (Kahn, column 10: 49-57). The transcript and written files disclosed by Kahn have nothing at all to do with "an audible request for a telephone number from a caller." Furthermore, a transcript

generated by a human operator plainly would have been useless in the system of Gupta, which uses automated speech recognition. (Gupta, Abstract.) Similarly, relying on a digital audio file to generate a written file would have made no sense in the context of Gupta, which relies on "a spoken utterance by the user of the automated directory assistance system." (Gupta, column 4: 15-16.) For at least these further independent reasons, the rejection of claims 1, 17, 29, and 30 should be reversed.

Cox does not compensate for the plain deficiencies of Gupta and Kahn. Therefore, the rejections of claims 1, 17, 29, and 30, as well as claims 2-4, 6-16, and 18-28 depending respectively therefrom, should be reversed for at least any of the foregoing reasons.

> **b.   "retrieve a listing corresponding to the audible request from a database ... "**

> **i.   Failure to State a Prima Facie Rejection**

Independent claim 1 recites in part:

> a listing retrieval module configured to retrieve a listing corresponding to the audible request from a database, the listing retrieval module being configured to use the transcript as a query, the database storing words previously included in requests for telephone numbers.

Independent claim 17 recites in part:

> retrieving a listing corresponding to the audible request from a database using the transcript as a query into the database, the database storing words previously included in requests for telephone numbers.

Independent claim 29 recites in part:

> means for retrieving a listing corresponding to the request from a database using a transcript as a query, a database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words.

Independent claim 30 recites in part:

> retrieving at least one listing corresponding to the audible request from a database using the transcript is a query, a database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words.

Regarding these claim recitations, the Examiner contended that Gupta teaches "'a listing retrieval module ... transcript' as generating a list." (Final Office Action, page 2.) As a threshold matter, once again the Examiner has not met the burden of stating a prima facie rejection because Appellants cannot tell from this statement exactly what Gupta is contended

to teach, nor can applicants discern how Gupta is alleged to read on the foregoing claim recitation. See MPEP 706.02(j). Therefore, the present rejection of claims 1, 17, 29, and 30 and all claims depending therefrom should be reversed at least because the Examiner has not met his burden. Further, the rejections of claims 1, 17, 29, and 30 (as well as all claims depending therefrom) should be reversed because Gupta, Kahn, and Cox, either alone or in combination, fail to teach or suggest to the recitations of claims 1, 17, 29, and 30.

ii.   "retrieve a listing corresponding to the audible request"

The Examiner asserted that "subblocks 404-406" shown in Gupta's Figure 3 somehow read on the foregoing claim recitations. (Final Office Action, page 2.) However, these process steps disclosed by Gupta in fact consist of no more than analyzing "the number that the user dialed to obtain directory assistance." (Gupta, column 11: 17-25.) The purpose of this analysis is to generate an orthography that has "the highest probability of matching the spoken utterance." (Gupta, column 7: 20-22.) As noted above, this orthography relates to a locality, and not a requested telephone number. Therefore, referring to claim 1 as exemplary, Gupta does not teach or suggest "a listing module configured to retrieve a listing corresponding to the audible request from a database." The rejections of claims 1, 17, 29, and 30, along with all claims depending therefrom, should be reversed for this further independent reason.

iii.   using the transcript as a query"

The Examiner acknowledged that the combination of Gupta and Kahn "does not explicitly teach storing the transcript to be used as a query." (Final Office Action, page 3.) Although, as discussed below, the Examiner asserted that Cox "teaches storing telephone information in a database," the Examiner does not appear to have included in the present rejection any reference allegedly reading on "the listing module being configured to use the transcript as a query." The rejections of claims 1, 17, 29, and 30, along with all claims depending therefrom, should be reversed for this further independent reason.

iv.   "the database storing words previously included in requests for telephone numbers"

Further, as the Examiner evidently acknowledged on page 3 of the Final Office Action, Gupta includes no teaching or suggestion of "the listing retrieval module being configured to use the transcript as a query, the database storing words previously included in

requests for telephone numbers." However, the Examiner asserted that Cox "teaches storing telephone information in a database, including operator assisted information." (Final Office Action, page 3.) Because the Examiner's assertion regarding Cox is different than the recitation in exemplary claim 1 of "the database storing words previously included in requests for telephone numbers," the Final Office Action fails to state a prima facie rejection for claims 1, 17, 29, and 30 for this further reason, which rejection should therefore be reversed for at least this reason.

Further, Cox does not teach or suggest "the database storing words previously included in requests for telephone numbers, as required by claim 1, 17, 29, and 30. Cox teaches maintaining "call data stored on a host computer" that:

> includes one or more of: the calling telephone number, the date and time of the caller's connection to a directory's assistant system 100, the T1 span in channel the caller is connected to, the caller's desired destination telephone number, the status of the caller's previous directory assistance request, which operator assisted the caller, etc.

(Cox, column 7: 49-59.) Nowhere does Cox teach or suggest that the disclosed "host computer" stores "words previously included in requests for telephone numbers." At most, Cox discloses that call data includes items such as "the caller's desired destination telephone number" and "the status of the caller's previous directory assistance request," neither of which includes "words previously included in requests for telephone numbers." For at least this reason, Cox does not compensate for the acknowledged deficiencies of the other cited prior art, and the rejections of claims 1, 17, 29, and 30 should be reversed, along with the rejections of the claims depending therefrom.

c.   **"determining whether to accept the listing retrieved by the listing retrieval module and present a telephone number corresponding to the accepted listing to the caller, the listing being rejected unless the transcript contains at least one of the stored words"**

i.   **Failure to State a Prima Facie Rejection**

Independent claim 1 recites in part:

> an accept/reject module configured to determine whether to accept the listing retrieved by the listing retrieval module and present a telephone number corresponding to the accepted listing to the caller, the listing being rejected unless the transcript contains at least one of the stored words.

Independent claim 17 recites in part:

> determining whether to accept the retrieved listing, the listing being
> rejected unless the transcript contains at least one of the stored
> words.

Independent claim 29 recites in part "means for determining whether to accept the
retrieved listing. Independent claim 30 recites in part "determining whether to accept one or
more of the retrieved listings."

Regarding these claim recitations, the Examiner contended that Gupta teaches "'an
accept/reject module . . . caller' as reworking the list." (Final Office Action, page 2.) As a
threshold matter, the Examiner has not met the burden of stating a prima facie rejection
because Appellants cannot tell from this statement exactly what Gupta is contended to teach,
nor can applicants discern how Gupta is alleged to read on the foregoing claim recitation. For
example, the Examiner did not explain what was meant by "reworking the list," nor did the
Examiner explain how "reworking the list" would read on the recited "accept/reject module."
Therefore, the present rejection of claim 1 and all claims depending therefrom should be
reversed at least because the Examiner has not met his burden. Further, the rejection of claim
1 should be reversed because Gupta, Kahn, and Cox, either alone or in combination, fail to
teach or suggest to the foregoing recitations of claims 1, 17, 29, and 30.

ii.   "determining whether to accept the listing retrieved by the listing retrieval module"

Gupta does not teach or suggest "determining whether to accept the listing retrieved
by the listing retrieval module." The Examiner does not appear to be relying on any other
reference for this claim recitation. (See Final Office Action, page 3.) Instead, the Examiner
referred to subblocks 416 and 418 in Gupta's Figure 3 as allegedly teaching "reworking the
list," and thereby as allegedly reading on the foregoing claim recitation. (Final Office Action,
page 2.) However, as is clear from Figure 3, blocks 416 and 418 relate to lists of localities,
i.e., identifiers for geographic areas, not listings. Moreover, even if listings and localities
were analogous, which they are not, Gupta does not include any teaching or suggestion of
determining "whether to accept the listing retrieved by the listing retrieval module," but at
most discloses that "an orthography can be chosen as the best possible match with the spoken
utterance." (Gupta, column 11: 63-64.) Gupta does not include any teaching or suggestion of
determining whether to accept or reject the chosen orthography, much less does Gupta include

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any teaching or suggestion of determining "whether to accept the listing retrieved by the listing retrieval module." For at least this further independent reason, the rejection of claims 1, 17, 29, and 30 should be reversed.

iii. "the listing being rejected unless the transcript contains at least one of the stored words"

Gupta cannot include any teaching or suggestion of "the listing being rejected unless the transcript contains at least one of the stored words" because, as noted above and as conceded by the Examiner (Final Office Action, page 3), Gupta does not include any teaching or suggestion of a transcript at all.

In addition, Cox does not teach or suggest "the listing being rejected unless the transcript contains at least one of the stored words," as is recited in exemplary claim 1. At most, Cox discloses that "[b]y considering the collected call data, such as the information that was provided to a caller in a previous request, a directory assistance provider can tailor subsequent assistance to be more effective." (Cox, column 7: 64-67.) As explained above, Cox's "collected call data," and in particular "information that was provided to a caller in a previous request," plainly does not include "stored words" or "words previously included in requests for telephone numbers." Further, Cox does not teach or suggest any conditions for a listing being rejected, much less a requirement that "the transcript contains at least one of the stored words," as is recited in Appellants' claims. In fact, Cox teaches considering "the information that was provided to a caller in a previous request," and therefore teaches away from considering information received from a caller, including "words previously included in requests for telephone numbers."

Moreover, Cox teaches away from using call data to obtain listings in response to callers' requests. Cox states that:

> data servers 120a maintain databases containing telephone and
> business directories, billing information, and other information
> in computer-readable form to be searched by operators in
> response to callers' requests. As introduced above, data servers
> 120a also store called data for later retrieval by directory
> assistance providers furnishing subsequent assistance to a caller.

(Cox, column 8: 18-31.) In other words, Cox does not use the disclosed call data to respond to callers' requests for listings, but rather uses call data to provide information to callers

subsequent to requests for listings. The fact that Cox's call data is saved on the data servers only for a predetermined period of time, (Cox, column 8: 34-35), further illustrates that Cox does not in any way teach or suggest using such call data for requests for listings. Thus, even if Cox's call data included "stored words" from "requests for telephone numbers," which it does not, Cox would still fail to teach or suggest "the listing being rejected unless the transcript contains at least one of the stored words."

Therefore, for at least the foregoing further reasons, the rejections of claims 1, 17, 29, and 30, as well as all claims depending therefrom, should be reversed.

2.   Dependent Claims 7 and 23

Claim 7 depends from claim 1 and recites that:

> the accept/reject module is configured to identify at least one word that is required for the listing, determine whether the transcript contains the identified at least one required word, and accept the listing when the transcript contains the identified at least one required word.

Claim 23 depends from claim 17 and recites:

> identifying at least one word that is required for the listing, determining whether the transcript contains the identified at least one required word, and accepting the retrieved listing when the transcript contains the identified at least one required word.

The Examiner addressed claims 7 and 23 by alleging that Gupta "teaches acceptance/rejection based on a recognized word from the listing (fig. 2)." (Final Office Action, page 4.) In fact, Gupta's Figure 2 discloses no more than "a prior art speech recognition system." (Gupta, column 6: 21.) The disclosed system receives spoken utterances and then attempts "to derive the orthography or orthographies which have the highest probability of matching the spoken utterance." (Gupta, column 7: 19-21.) Thus, Gupta discloses a system that attempts to match spoken utterances to words in a dictionary. This is not what claim 7 or claim 23 recites, and Gupta fails to teach or suggest the recitations of claims 7 and 23. For example, Gupta does not include any teaching or suggestion of "at least one required word," much less of determining "whether the transcript contains the identified at least one required word," or accepting "the listing when the transcript contains the identified at least one required word. For at least these reasons, claims 7 and 23 are each separately patentable, and the rejection of these claims should be reversed.

3. Dependent Claim 9

Claim 9 depends from claim 1 and recites "a training system configured to automatically configure the speech recognition module, the listing retrieval module, and the accept/reject mode." The Examiner contended that Gupta "teaches a training system to configure the recognition modules as using orthographies that are configured/trained by certain utterances based on geography or as a first pass search." (Final Office Action, page 4; citations omitted.) In fact, Gupta does not teach "a training system" at all.

At most, Gupta discloses determining a probability that each of a plurality of orthographies correspond to a spoken utterance. (Gupta, column 2: 15-20.) The fact that Gupta, in a passage cited by the Examiner, discloses a "speech recognition process [that] is essentially a three step operation" (Gupta, column 2: 44-49) does not mean that Gupta teaches or suggests "a training system." Instead, the three steps disclosed by Gupta amount to no more than refining a probability that speech recognition has been performed correctly. (See Gupta, column 2: 63-67.)

Further, the Examiner cited a portion of Gupta stating that "the apparatus using an a priori adviser for the speech recognition dictionary could also be used in other types of speech recognition systems." (Gupta, column 12: 40-43.) Nowhere does this or any other portion of Gupta teach or suggest "a training system." Moreover, Gupta appears to be stating no more than that its three pass method for refining a probability that a spoken utterance corresponds to an orthography could be used in contexts other than the "automated directory assistance system" emphasized in Gupta. (Gupta, column 12: 38-39.)

For at least the foregoing reasons, claim 9 is separately patentable, and the rejection of claim 9, along with claims 10-16 depending therefrom, should be reversed.

4. Dependent Claim 12

The Examiner rejected claim 12 on grounds identical to claim 7. (Final Office Action, page 4.) Claim 12 recites that "the training system includes: a required words determination module configured to identify at least one word that is required to request the telephone number, the accept/reject module using the identified at least one required word to determine whether the listing is acceptable." Although claims 7 and 12 are plainly not of identical

scope, the rejection of claim 12 should be reversed at least for the reasons set forth above regarding claim 7.

Further, the rejection of claim 12 states no more than that "Gupta teaches acceptance/rejection based on a recognized word from the listing." (Final Office Action, page 4.) Thus, the Final Office Action does not in any way address the recited "required words determination module configured to identify at least one word that is required to request the telephone number." Therefore, the Examiner has failed to state a prima facie rejection regarding claim 12, in the rejection of claim 12 should be reversed for least this reason.

Moreover, Gupta does not include any teaching or suggestion of "a required words determination module" as recited in claim 12. In fact, as discussed above, Gupta does not include any teaching or suggestion of identifying words required to request a telephone number. Therefore, for least these further reasons, claim 12 is separately patentable, and the rejection of claim 12 should be reversed.

5.   Dependent Claim 13

Claim 13 depends from claim 9, which in turn depends from claim 1, and recites that "the training system includes: a transcription module configured to automatically generate training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number." The Examiner contended that Gupta "teaches generating transcripts based upon a priori probabilities and histograms." (Final Office Action, page 4.) In fact, as the Examiner conceded on page 3 of the Final Office Action, Gupta "does not explicitly teach generating a transcript." Indeed, the portion of Gupta cited by the Examiner and the rejection of claim 13 discloses using histograms and searching data structures to extract probabilities associated with localities in a candidate list of localities. (Gupta, Figure 3, elements 408 and 412.) Thus, neither this nor any other portion of Gupta has anything to do with "a transcription module." Therefore, claim 13 is separately patentable, as are claims 14-16 depending therefrom, and these claims should be reversed at least for the foregoing reasons.

6.   Dependent Claim 25

Claim 25 depends from claim 17, and recites "automatically generating training transcripts corresponding to previous requests for the telephone numbers, the telephone

numbers including the telephone number." The Examiner contended that Gupta "teaches the use of probability statistics," and that such teaching allegedly anticipates the recitation of claim 25. (Final Office Action, page 4.) In fact, claim 25 plainly includes a recitation other than "the use of probability statistics," and the Examiner has thus failed to state a prima facie rejection of claim 25. Therefore, the rejection of claim 25 should be reversed for at least this reason.

Further, Gupta plainly does not teach or suggest "automatically generating training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number." In fact, as noted above, the Examiner conceded that Gupta does not teach generating transcripts. Further, the Examiner has made no showing that Gupta includes any teaching or suggestion "corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number." Nor does Gupta appear to include such a teaching or suggestion. For least these further reasons, claim 25 is separately patentable, and the rejection of this claim should be reversed.

7.   Dependent Claim 27

Claim 27 depends from claim 26, which in turn depends from claim 25, claim 25 in turn depending from claim 17. Claim 27 recites that "the automatically generating [training transcripts] includes: determining whether the generated transcript is acceptable." The Examiner rejected claim 27 on the same ground as claims 7, 12, and 23 (see Final Office Action, page 4), that ground being addressed above with respect to those claims. Further with respect to claim 27, inasmuch as Gupta does not teach or suggest generating a transcript – as the Examiner has conceded (Final Office Action, page 3) – clearly Gupta does not read on "determining whether the generated transcript is acceptable." Accordingly, for at least the reasons set forth herein, claim 27 is separately patentable, and the rejection of claim 27 should be reversed.

C.   Ground of Rejection No. 2 (Claims 53 and 55)

A ground of rejection set forth in the Final Office Action was that claims 53 and 55 were allegedly unpatentable under Section 103 over Sabourin in view of Cox. Claims 53 and 55 are argued together herein without conceding that the claims are of identical scope. As set

forth below, multiple independent reasons mandate that this Board reverse these claim rejections.

1.   "generating a transcript"

Independent claim 53 recites in part "generating a transcript from the at least one word." Independent claim 55 recites "using speech recognition to generate a transcript from the audible request." The Examiner (Final Office Action, page 8) contended that Sabourin anticipated the foregoing recitations by disclosing that "[t]he speech recognition layer tries to match the detected vocal tract signal with entries made in a speech recognition dictionary and selects the entry that is most likely to be what the caller is saying." (Sabourin, column 5: 50-55.) However, the foregoing portion of Sabourin clearly discloses no more than selecting dictionary entries, and does not teach or suggest "generating a transcript."

In fact, claim 53 recites "using large vocabulary speech recognition to recognize at least one word spoken by the caller." If anything, the cited portion of Sabourin speaks to this recitation. However, in addition to performing speech recognition, claim 53 further recites "generating a transcript from the at least one word." Sabourin at most discloses speech recognition, and not "generating a transcript." Further, with respect to claim 55, Sabourin teaches at most using speech recognition to match a dictionary entry, and not "using speech recognition to generate a transcript from the outlaw request, as is recited in claim 55. For at least this reason, independent claims 53 and 55 are patentable over Sabourin, and the rejection of these claims should be reversed.

2.   "words previously included in requests for telephone numbers"

Claim 53 recites in part:

> using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, including using the transcript as a query, the listings database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words.

Claim 55 recites in part:

> using the transcript to identify the listing as a potential match to the request, the listing being identified by using the transcript as a query into a database containing the set of words or phrases associated with the listing, the set of words or phrases associated with the listing being previously included in requests for telephone numbers.

The Examiner acknowledged that Sabourin "does not explicitly teach the database storing word[s] previously included in requests for telephone numbers and using the stored information to make further judgments on the listing." (Final Office Action, page 9.) The Examiner then contended that Cox compensates for the acknowledged deficiencies of Sabourin, which, as discussed below, it does not.

The Examiner did not explicitly address the foregoing claim recitations in the Office Action, and therefore failed to state a prima facie rejection. The Examiner's recitation of "using the stored information to make further judgments on the listing," is irrelevant to claims 53 and 55 because those claims do not recite "using the stored information to make further judgments on the listing." (See Office Action, page 9.) Therefore, at least because of the Examiner's failure to state a prima facie rejection, the rejection of claims 53 and 55 should be reversed.

Further, contrary to the Examiner's contention, Cox does not compensate for the acknowledged deficiencies of Sabourin for at least reasons set forth above in the argument concerning Ground of Rejection No. 1. In fact, as noted above, Cox teaches considering "the information that was provided to a caller in a previous request," and therefore teaches away from considering information received from a caller, including "words previously included in requests for telephone numbers." For at least these further reasons, the rejection of claims 53 and 55 should be reversed.

D.   Ground of Rejection No. 3 (Claim 54)

A ground of rejection set forth in the Final Office Action was that claim 54 was allegedly unpatentable under Section 103 over Sabourin in view of Cox and further in view of Daudelin. As set forth below, multiple independent reasons mandate that this Board reverse this claim rejection.

1.   "generating a transcript"

Independent claim 54 recites in part "generating a transcript from the at least one word." Sabourin fails to teach or suggest this recitation of claim 54 for the same reasons set forth above regarding claims 53 and 55. Therefore, the rejection of claim 54 should be reversed for at least this reason.

2.   "words previously included in requests for telephone numbers"

Independent claim 54 further recites in part:

> using statistical information retrieval and the transcript to identify a
> listing corresponding to the recognized word, the statistical
> information retrieval matching the transcript to words previously
> included in requests for telephone numbers.

The Examiner acknowledged that Sabourin "does not explicitly teach the database
storing word[s] previously included in requests for telephone numbers and using the stored
information to make further judgments on the listing." (Final Office Action, page 9.) The
Examiner then contended that Cox compensates for the acknowledged deficiencies of
Sabourin.

The Examiner did not explicitly address the foregoing claim recitations in the Office
Action, and therefore failed to state a prima facie rejection. The Examiner's recitation of
"using the stored information to make further judgments on the listing," is irrelevant to claim
54 because that claim does not recite "using the stored information to make further judgments
on the listing." (See Office Action, page 10.) Therefore, at least because of the Examiner's
failure to state a prima facie rejection, the rejection of claim 54 should be reversed.

Further, contrary to the Examiner's contention, Cox does not compensate for the
acknowledged deficiencies of Sabourin for at least reasons set forth above in the argument
concerning Ground of Rejection No. 1. In fact, as noted above, Cox teaches considering "the
information that was provided to a caller in a previous request," and therefore teaches away
from considering information received from a caller, including "words previously included in
requests for telephone numbers." For at least these further reasons, the rejection of claim 54
should be reversed.

CONCLUSION

In view of the above analysis, a reversal of the rejections of record is respectfully requested of this Honorable Board. It is believed that any fees associated with the filing of this paper are identified in an accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 18-0013, under Order No. 65632-0231, from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136(a) is hereby made, the fee for which should be charged against the aforementioned account.

Respectfully submitted,

Dated: January 16, 2008

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APPENDIX A – CLAIMS APPENDIX

Pursuant to 37 CFR § 41.37(c)(vii), the following listing provides a copy of the claims involved in the appeal.

1. An automated directory assistance system, comprising:

a speech recognition module configured to receive an audible request for a telephone number from a caller and generate a transcript from the audible request;

a listing retrieval module configured to retrieve a listing corresponding to the audible request from a database, the listing retrieval module being configured to use the transcript as a query, the database storing words previously included in requests for telephone numbers; and

an accept/reject module configured to determine whether to accept the listing retrieved by the listing retrieval module and present a telephone number corresponding to the accepted listing to the caller, the listing being rejected unless the transcript contains at least one of the stored words.

2. The system of claim 1, wherein the speech recognition module includes a large vocabulary speech recognizer.

3. The system of claim 1, wherein the speech recognition module is configured to use acoustic models and an n-gram grammar to recognize at least one word included in the audible request.

4. The system of claim 1, wherein the listing retrieval module includes a statistical information retrieval system.

6. The system of claim 1, wherein the listing retrieval module is configured to rank a plurality of listings from the database.

7. The system of claim 1, wherein the accept/reject module is configured to identify at least one word that is required for the listing, determine whether the transcript contains the

identified at least one required word, and accept the listing when the transcript contains the identified at least one required word.

8. The system of claim 1, wherein the accept/reject module is further configured to transfer the audible request to a human operator when the accept/reject module does not accept the listing.

9. The system of claim 1, further comprising:

a training system configured to automatically configure the speech recognition module, the listing retrieval module, and the accept/reject mode.

10. The system of claim 9, wherein the training system includes:

an acoustic model training module configured to estimate acoustic models from training transcripts relating to previous requests for the telephone numbers, the telephone numbers including the telephone number corresponding to the listing; and

a speech grammar estimation module configured to create an n-gram grammar for the telephone numbers, the speech recognition module using the acoustic models and the n-gram grammar to generate the transcript from the audible request.

11. The system of claim 9, wherein the training system includes:

a listings statistics estimation module configured to identify words used when requesting the telephone number, the listing retrieval module retrieving the identified words using the transcript.

12. The system of claim 9, wherein the training system includes:

a required words determination module configured to identify at least one word that is required to request the telephone number, the accept/reject module using the identified at least one required word to determine whether the listing is acceptable.

13. The system of claim 9, wherein the training system includes:

a transcription module configured to automatically generate training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number.

14. The system of claim 13, wherein the transcription module includes:

a grammar creation component configured to create a loose grammar corresponding to each of the telephone numbers, and

a speech recognition component configured to generate a training transcript for one of the previous requests for the telephone numbers using the loose grammar.

15. The system of 14, wherein the transcription module further includes:

an accept/reject component configured to determine whether the generated training transcript is acceptable.

16. The system of claim 15, wherein the transcription module further includes:

a verification/correction module configured to present the generated training transcript to a human for at least one of verification and modification.

17. A method for providing directory assistance, comprising:

receiving an audible request for a telephone number from a caller;

generating a transcript from the audible request;

retrieving a listing corresponding to the audible request from a database using the transcript as a query into the database, the database storing words previously included in requests for telephone numbers;

determining whether to accept the retrieved listing, the listing being rejected unless the transcript contains at least one of the stored words; and

presenting a telephone number corresponding to the accepted listing to the caller.

18. The method of claim 17, comprising:

estimating acoustic models from speech and training relating to requests for the telephone numbers; and

creating an n-gram grammar for the telephone numbers.

19. The method of claim 18, wherein the generating includes:

using the acoustic models and the grammar to recognize at least one word included in the audible request.

20. The method of claim 17, further comprising:

identifying words relating to each of the telephone numbers, the telephone numbers including the telephone number; and

storing the words in the database.

21. The method of 20, wherein the retrieving includes:

using the transcript as a query into database to retrieve the words relating to the telephone number.

22. The method of claim 17, wherein the retrieving includes:

retrieving a plurality of listings from the database, the listings corresponding to the audible request; and

ranking the plurality of listings.

23. The method of claim 17, wherein the determining includes:

identifying at least one word that is required for the listing,

determining whether the transcript contains the identified at least one required word, and

accepting the retrieved listing when the transcript contains the identified at least one required word.

24. The method of claim 17, comprising:

retrieving a plurality of listings corresponding to the audible request; and

transferring the audible request to a human operator when none of the plurality of retrieved listings are accepted.

25. The method of claim 17, further comprising:

automatically generating training transcripts corresponding to previous requests for the telephone numbers, the telephone numbers including the telephone number.

26. The method 25, wherein the automatically generating includes:

creating a loose grammar corresponding to each of the telephone numbers, and

generating a training transcript for one of the previous requests for one of the telephone numbers using the loose grammar.

27. The method of claim 26, wherein the automatically generating includes:

determining whether the generated transcript is acceptable.

28. The method of claim 27, wherein the automatically generating further includes:

presenting the transcript to a human for at least one of verification and modification.

29. A system for providing automated directory assistance, comprising:

means for receiving a request for a telephone number from a caller;

means for generating a transcript from the request;

means for retrieving a listing corresponding to the request from a database using the transcript as a query, the database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words;

means for determining whether to accept the retrieved listing; and

means for presenting a telephone number corresponding to the accepted listing to the caller.

30. A computer-readable medium that stores instructions executable by at least one processor to perform a method for providing directory assistance, comprising:

recognizing at least one word in an audible request for a telephone number received from a caller;

generating a transcript from the audible request;

retrieving at least one listing corresponding to the audible request from a database using the transcript as a query, the database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words;

determining whether to accept one or more of the retrieved listings; and

presenting a telephone number corresponding to the accepted one or more listings to the caller.

53. A method for providing a directory assistance service, comprising:

receiving a request for a telephone number from a caller, the request being spoken by the caller and including a location and listing corresponding to the telephone number;

using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request;

generating a transcript from the at least one word;

using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, including using the transcript as a query, the listings database storing words previously included in requests for telephone numbers, the query including matching the transcript to the stored words;

determining whether the listing is likely to be correct; and

providing a telephone number corresponding to the listing to the caller.

54. A method for providing a directory assistance service, comprising:

receiving a request for a telephone number from a caller, the request being spoken by caller and including a location and listing corresponding to the telephone number;

using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request;

generating a transcript from at least one word;

using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, the statistical information retrieval matching the transcript to words previously included in requests for telephone numbers; and

connecting the caller to a called party corresponding to the listing.

55. A method of providing directory assistance, comprising:

defining a set of words or phrases associated with a listing;

defining at least one required word associated with the listing;

receiving a request for a telephone number from a caller;

using speech recognition to generate a transcript from the audible request;

using the transcript to identify the listing as a potential match to the request, the listing being identified by using the transcript as a query into a database containing the set of words or phrases associated with the listing, the set of words or phrases associated with the listing being previously included in requests for telephone numbers;

determining whether the transcript includes the at least one required word associated with the listing;

accepting the listing when it is that the transcript includes a match for at least one of the at least one required word; and

rejecting the listing when it is determined that the transcript does not include a match for at one of the at least one required word.

APPENDIX B – EVIDENCE APPENDIX

Not applicable – in this Appeal, Appellants do not rely on any evidence submitted pursuant to 37 CF.R.F. §§ 1.130, 1.131, or 1.132, or on any other evidence entered by the Examiner.

APPENDIX C - RELATED PROCEEDINGS APPENDIX

Not applicable – Appellants are not aware of any decisions rendered by a court or the Board in any proceeding identified above pursuant to 37 CFR § 41.37(c)(1)(ii).